



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,869	01/24/2002	Hiroshi Nagasawa	NAGASAWA=7	5352

1444 7590 12/01/2004

BROWDY AND NEIMARK, P.L.L.C.
624 NINTH STREET, NW
SUITE 300
WASHINGTON, DC 20001-5303

EXAMINER

FORMAN, BETTY J

ART UNIT	PAPER NUMBER
----------	--------------

1634

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/053,869

Applicant(s)

NAGASAWA, HIROSHI

Examiner

BJ Forman

Art Unit

1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1634

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 13 September 2004 has been entered.

Status of the Claims

2. This action is in response to papers filed 13 September 2004 in which claim 6 was amended and claim 11 was added. The amendments have been thoroughly reviewed and entered.

The previous objections and rejections in the Office Action dated 12 March 2004 are withdrawn in view of the amendments. Applicant's arguments have been thoroughly reviewed but are deemed moot in view of the amendments, withdrawn rejections and new grounds for rejection. New grounds for rejection are discussed.

Claims 6-11 are under prosecution.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 1634

4. Claims 6-7 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Stein et al (WO 99/59722, published 25 November 1999).

Regarding Claim 6, Stein et al discloses a probe chip comprising a plurality of stacked substrates, each having a plurality of through holes wherein the substrates are stacked to align the through-holes, a carrier filled in the through-holes wherein the carrier is porous relative to the substrate and probe molecules attached to the carrier (page 4, line 21-page 5, line 14), fig. 3-4 and 10) wherein the probe molecules attached to the surface of carriers in one groups are different from those in another group (page 8, line 17-page 9, line 23).

Regarding Claim 7, Stein et al discloses the method wherein the carrier is selected from the group consisting porous membrane (Fig. 7, page 21, line 23-page 22, line), non-woven fabric i.e. glass frit (page 26, lines 8-12) and a powder of porous glass i.e. 1 μ m beads (Fig. 10 and page 23, lines 10-page 25, line 11).

Regarding Claim 9, Stein et al discloses the method wherein the particle size of the glass bead is 1 to 100 μ m (page 25, lines 1-4).

Regarding Claim 10, Stein et al discloses the method wherein the probe is selected from peptides and oligonucleotides (page 8, lines 19-21).

Regarding Claim 11, Stein et al discloses the method wherein the substrates are stacked to align the through-holes of adjacent substrates in a liquid-tight manner so that liquid will not move laterally to adjacent through-holes e.g. o-ring (page 18, line 23-page 24, line 2) or sealing mechanism, Fig. 10 (page 23, lines 19-21)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1634

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stein et al (WO 99/59722, published 25 November 1999) in view of Dusterhoft et al (WO 98/08954,

Regarding Claim 8, Stein et al discloses a probe chip comprising a plurality of stacked substrates, each having a plurality of through holes wherein the substrates are stacked to align the through-holes, a carrier filled in the through-holes wherein the carrier is porous relative to the substrate and probe molecules attached to the carrier (page 4, line 21-page 5, line 14), fig. 3-4 and 10) wherein the probe molecules attached to the surface of carriers in one groups are different from those in another group (page 8, line 17-page 9, line 23) wherein the carrier is a powder of porous glass i.e. 1 μ m beads (Fig. 10 and page 23, lines 10-page 25, line 11) and wherein the beads have perforations to provide greater surface area (page 24, lines 22-25) but is silent regarding the size of the perforation (i.e. pore size). However the claimed pore size of 0.1 to 0.5 μ m was well known in the art as preferred particles at the time the claimed invention was made as taught by Dusterhoft et al (Column 3, lines 38-40; Column 11, lines 41-60). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the preferred pore size taught by Dusterhoft et al to the particles of Stein et al based on the preferred teaching Dusterhoft et al (page 11, lines 58-60) and for the expected benefit of providing increased surface area as desired by Stein et al (page 24, lines 22-25).

Prior Art

Art Unit: 1634

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Leighton (U.S. Patent No. 6,136,592, filed 7 October 1999) teaches a probe chip comprising a plurality of stacked substrates having aligned through-holes each substrate comprising porous and non-porous regions (Fig. 1-2 and Column 5, lines 48-60).

Conclusion

8. No claim is allowed.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (571) 272-0741. The examiner can normally be reached on 6:00 TO 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones can be reached on (571) 272-0745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

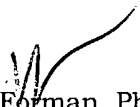
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system

Art Unit: 1634

provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.



BJ Forman, Ph.D.
Primary Examiner
Art Unit: 1634
November 15, 2004